

### AMENDMENTS TO THE CLAIMS

The following listing of claims, in which added text is underlined and deleted text is stricken through, will replace all prior versions and listings of claims in the application.

1. (Currently amended) A method of stimulating outgrowth of neurites comprising:  
contacting a target living neuron or live neuronal area with a solution of a metallothionein isoform selected from the group consisting of MT-I, MT-II and synthetic forms thereof so as to deliver a sufficient amount of said metallothionein to stimulate said outgrowth of neurites; and  
measuring neurite growth after contacting with the solution.
2. (Canceled)
3. (Previously presented) A method according to claim 1 wherein said MT-II is human MT-IIA.
4. (Canceled)
5. (Previously presented) A method according to claim 4 wherein said MT-II is recombinant human MT-IIA.
6. (Previously presented) A method according to claim 1 wherein said solution has a concentration of up to about 5 µg/ml metallothionein in a neurologically acceptable carrier.
7. (Original) A method according to claim 6 wherein said solution has a concentration of about 5 µg/ml metallothionein in solution.
8. (Previously presented) A method according to claim 1 further comprising exposing said neuron or neuronal area to at least one additional metallothionein isoform or a combination of metallothionein isoforms selected from the group consisting of MT-I, MT-II, MT-III and MT-IV.
9. (Previously presented) A method according to claim 8 wherein said target neuron or neuronal area is exposed simultaneously to a combination of MT-IIA and any one or a combination of metallothionein isoforms selected from the group consisting of MT-I, MT-II, MT-III and MT-IV.
10. (Currently amended) A method according to claim 8 wherein said target neuron or neuronal area is exposed sequentially to a combination of MT-IIA followed by any one or a combination of metallothionein isoforms selected from the group consisting of MT-I, MT-II, MT-III and MT-IV.

11. (Previously presented) A method according to claim 8 wherein said target neuron or neuronal area is exposed sequentially to a combination of any one of metallothionein isoforms selected from the group consisting of MT-I, MT-II, MT-IIA, MT-III and MT-IV.

12. (Currently amended) A method according to claim 11 wherein said neuron or neuronal area is located in the brain.

13. (Currently amended) A method according to claim 1 wherein said solution is administered to said neuron or neuronal area by direct injection, ~~intraperitoneal injection~~.

14. (Previously presented) A method of treatment of Alzheimer's Disease comprising administration to a patient in need of treatment a therapeutic composition including metallothionein in accordance with the method of claim 1.

15. (Previously presented) A method of treatment of Parkinson's Disease comprising administration to a patient in need of treatment a therapeutic composition including metallothionein in accordance with the method of claim 1.

16. (Previously presented) method of treatment of motor neuron disease comprising administration to a patient in need of treatment a therapeutic composition including metallothionein in accordance with the method of claim 1.

17. (Previously presented) A method of treatment of head injury comprising administration to a patient in need of treatment a therapeutic composition including metallothionein in accordance with the method of claim 1.

18-27. (Canceled)

28. (Currently amended) The method of claim 1, wherein the solution is applied directly to exposed ~~neurites~~ neurons.

29. (Canceled)

30. (New) A method of stimulating outgrowth of neurites comprising directly contacting a target living neuron or live neuronal area with a solution of a metallothionein isoform selected from the group consisting of MT-I, MT-II and synthetic forms thereof so as to deliver a sufficient amount of said metallothionein to stimulate said outgrowth of neurites.

31. (New) A method of treatment of Alzheimer's Disease comprising administration to a patient in need of treatment a therapeutic composition including metallothionein in accordance with the method of claim 30.

32. (New) A method of treatment of Parkinson's Disease comprising administration to a patient in need of treatment a therapeutic composition including metallothionein in accordance with the method of claim 30.

33. (New) method of treatment of motor neuron disease comprising administration to a patient in need of treatment a therapeutic composition including metallothionein in accordance with the method of claim 30.

34. (New) A method of treatment of head injury comprising administration to a patient in need of treatment a therapeutic composition including metallothionein in accordance with the method of claim 30.